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Foston Redevelopment Authority

Downtown, R-46

August 1962

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PREFACE

The following paragraphs consist of an account of existing conditions and relevant facts pertaining to the transportation and circulation aspects of the Downtown GNRP Area. The precise boundaries of this GNRP area and the smaller CBD area within it are delineated elsewhere in this package. The term "downtown" is used in the text to refer to the general Boston core area whenever a precise reference to the GNRP is not warranted. All statements are based on objective facts which are either already in existence or imminent in their occurrence. The information is presented under the following major headings: Downtown Boston, Public Transport Facilities; Expressways; Streets in the CBD; Parking Facilities; and Pedestrian Movement. The following are also to be enumerated or explained; groups or agencies involved in Boston Transportation matters and a list of past studies and reports.

The following GNRP drawings are related to the subject matter in this section:

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1. DOWNTOWN BOSTON

- The downtown area including the GNRP and CBD project area contained within is the focal point of the Boston metropolitan area and to a certain extent the New England region. It is the traditional center for major wholesale, retail, commercial, entertainment, government, financial and professional service activities. It is in this area that the major highway and transit facilities of the region intersect, and, understandably, it is here that many of the largest investments in structure and enterprise exist.

2. PUBLIC TRANSPORT FACILITIES

MASS TRANSIT:

The Metropolitan Transit Authority (MTA) is the prime mover of persons to and from downtown Boston. While the MTA still moves the majority of persons to and from downtown during peak hours its relative importance to the total passenger movement for downtown has been declining steadily since the end of World War II. The MTA's system-wide riding has also been declining. Revenue passengers for the entire system for the year 1959 amounted to 202,101,095. This represents a decline of 47% since 1948.¹ Latest figures released for 1960 indicate patronage dropped almost 3,000,000 more since 1959.

This decline in patronage is attributed primarily to increased automobile ownership and usage and the selected growth and redistribution of the regions population beyond the MTA's district. Population in the old core settlements of the region is declining while heavy growth is taking place in the suburbs. Eoston population alone has declined 13% between 1950 and 1960². While it is stated that a 47% decline in MTA riding took place between 1948 and 1959 it should also be stated that automobile registration increased 48.9% in the same period.³ The addition of new expressways into or adjacent to downtown has also contributed to the decline of transit patronage.


- Facilities in the Downtown GNRP

The Downtown GNRP is served by four rapid transit lines. Two of these routes, Cambridge-Dorchester and Everett-Forest-Hills are through-routed through the CBD. The two other routes, Wonderland-Bowdoin Sq. and Lechmere-Riverside terminate in the vicinity of the GNRP. The above routes offer a total of seven rapid transit lines radiating from downtown Boston serving Ashmont-Mattapan, Forest Hills, Riverside, Harvard Square, Lechmere, Everett, and Wonderland (Revere). Several

¹ Commonwealth of Massachusetts, Report of the Joint Special Legislative Committee on Transportation House No. 3400, Jan. 1962, Appendix C

² *ibid.*, Appendix E.

³ *ibid.*



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rapid transit extensions toward points on Route 128 and along the South Shore are under consideration. All rapid transit routes offer high platform type service except the Riverside route which uses one, two, and three car PCC trains.

The Lechmere-Riverside PCC car line radiates to the west of the CBD from the Tremont-Boylston PCC Tunnel. The eastern end of the tunnel ties into an elevated structure north of Haymarket Square allowing for private r.o.w. PCC operation to Lechmere Square northeasterly of the GNRP and on the Cambridge side of the Charles River. Running time is slow on this line, especially during peak hours when there is a drag on a good portion of this subway. This is due partly to the large number of routes operating on this line and the excessive amount of time required to transfer passengers from the low platforms. A parallel tunnel between Park Street and Boylston Street Stations had been proposed to alleviate the situation. But, this measure was not passed during the 1957 State legislative session.

The following table shows the approximate distance of the seven radial rapid transit lines from downtown and their base period running times.

<u>Route</u>	<u>From</u>	<u>To</u>	Approx. Route Miles From CBD	Base Running Time
Cambridge-Dorchester	Wash. St.	Ashmont	5 1/4	15 min.
Everett-Forest Hills	Summer-Winter	Forest Hills	4 3/4	15 "
Lechmere-Riverside	Park St.	Riverside	11 3/4	33 "
Cambridge-Dorchester	Wash. St.	Harvard Sq.	3 1/2	
Lechmere-Riverside	Park St.	Lechmere	1	
Everett-Forest Hills	Summer-Winter	Everett	3 1/2	14 min.
Bowdoin Sq.-Revere	Devonshire	Wonderland	5 1/2	

The rapid transit system serves the downtown area through eight stations. Four of these stations serve intersecting routes on separate levels. The eight stations in the downtown and the rapid transit routes they serve are listed below.

<u>Station</u>	<u>Routes Served</u>
1. Scollay ⁴	Lechmere-Riverside Bowdoin Sq.-Revere
2. Milk-State, Devonshire	Bowdoin Sq.-Revere Everett-Forest Hills
3. Park ⁵	Lechmere-Riverside Cambridge-Dorchester
4. Winter-Summer, Washington	Cambridge-Dorchester Everett-Forest Hills

(Table Continued)

	<u>Routes</u>
5. South Station Under	Cambridge-Dorchester
6. Boylston-Essex	Everett-Forest Hills
7. Boylston ⁵	Lechmere-Riverside
8. Arlington ⁵	Lechmere-Riverside

Approximate Number of Outbound MTA Riders Originating
in Eight Downtown Boston Subway Stations Dec. 7, 1960

<u>Station</u>	<u>Number</u>
Scollay	6,600
Milk-State, Devonshire	18,300
Park	40,200
Winter-Summer, Washington	54,500
South Station Under	14,000
Boylston-Essex	10,900
Boylston	7,700
Arlington	<u>15,900</u>
Total	168,100

⁴ This station also serves the Beacon Street and Huntington Avenue subway-surface lines.

⁵ This station also serves the following subway-surface trolley lines: (1) Beacon Street at Cleveland Circle, (2) Huntington Avenue to Forest Hills, (3) Commonwealth Avenue to Easton College and (4) Commonwealth and Brighton Avenues to Watertown. The Watertown subway surface trolley line will be motorized on September 26, 1962 and will cease directly serving downtown Boston at this time. Passengers will henceforth transfer from subway to bus at Kenmore or Central Square.

Approximately 168,000 revenue fares were collected at these eight downtown stations on an average week day in December 1960. These fares apply to all rapid lines enumerated above⁶ as well as four subway surface trolley lines sharing their downtown tracks with the Lechmere-Riverside rapid transit line. The subway-surface lines serve points to the west and south west of downtown Boston.

- Rolling Stock

In 1960 the MTA had 1,715 pieces of rolling stock in revenue service.⁷ They are as follows:

PCC (Trolleys)	344
Rapid Transit Cars	403
Buses	601
Trackless Trolleys	<u>367</u>
	1,715

The Cambridge-Dorchester rapid transit line will be entirely re-equipped with ninety-two new cars to be delivered within a year.

- Fare Structure

All rapid transit lines except Lechmere-Riverside operate on a 20-cent fare with no transfers. Additional bus and trackless fare is usually 10 cents. The Riverside route has a zone fare with the subway portion of the route set at a 20-cent rate; the

⁶ The Tremont Street subway-surface line running between Tremont at Lennox and North Station has been motorized and no longer enters the heart of the central business district..

⁷ Moody's Investor Service, Moody's Municipal & Government Manual American & Foreign, 1962

fare from Fenway to Reservoir (near Cleveland Circle) and from Reservoir to Riverside, is ten cents for each of these two portions of the route. The total fare from Riverside to downtown Boston is 40 cents.

Subway-surface car lines operate on a zone fare system with the subway zone fare set at 20-cents and additional surface zones set at 10 cents per zone for a maximum of two surface zones. Maximum fare is 40 cents. For distance traveled, the high platform rapid transit lines offer an economic bargain to the transit rider compared to fares on routes operated with PCC cars.

- Bus Lines Serving Downtown
MTA Bus Lines:

No bus lines serve the Washington-Tremont Street axis of the the retail-entertainment district of downtown Boston.

Several lightly patronized bus lines operate from or through points in downtown Boston. Most of these are on the perimeter of downtown. Six routes terminate at South Station. Three of these routes operate from points in South Boston, one route operates between South Station and Haymarket Square (Government Center) via the Atlantic Avenue waterfront. A fifth route operates between North and South Stations via Canal and Congress Streets while the sixth route terminating at South Station serves Stuart and Kneeland Streets from Huntington Avenue on

Monday thru Friday during rush hours only. Of these six routes, only one (from South Boston) operates seven days a week. The majority of these routes are Monday through Friday operations.

A recently motorized Tremont Street subway-surface line now terminates at the intersection of Tremont and Boylston Streets and serves Tremont Street and Columbus Avenue to Egleston Square.

Two MTA bus routes operate between Haymarket Square (Government Center Area) and Sullivan Square in Charlestown.

- Eastern Massachusetts Street Railway

In addition to the eight lightly patronized MTA bus routes noted above the northern division of "Eastern Massachusetts" serves points to the North of the MTA district extending some forty miles from downtown Boston and stretching in an arc roughly from Lowell, to the north shore. All of these routes terminate at Haymarket Square. One route operates between Park Square and Lowell, Mass.

- Boston & Worcester Bus Lines

The Boston and Worcester Bus Company delivers about 1,000 passengers on an average week day to downtown Boston at their Park Square Terminal.⁸ Their main line route is the

⁸ Foley of Boston & Worcester Bus Company, Phone Call

Worcester Turnpike, Route 9.

COMMUTER RAILROADS:

Commuter railroad service along with other modes of mass transportation facilities has experienced a great decline since World War II.

Passenger railroad terminals offering suburban commuter service are located on the southeast and northern perimeter of downtown Boston. They are South and North Station respectively. South Station is the Boston terminal for the New York, New Haven and Hartford Railroad and the New York Central owned Boston and Albany Railroad. These carriers bring a total of 10,000 persons to downtown Boston on an average week day.⁹ The New Haven's patronage is down 3% from last year. Fifteen thousand passengers on an average week day are carried into downtown Boston through North Station on the Boston and Maine.¹⁰

MASS TRANSIT COMMISSION, COMMONWEALTH OF MASSACHUSETTS:

This Commission is about to embark upon an 18-month series of commuter rail and mass transit service experiments. This

⁹ James A. Whalen, Passenger Traffic Agent, N.Y. N.H. & H., R.R. phone call of August 29, 1962

¹⁰ Commonwealth of Massachusetts, Special Report of the Mass Transportation Commission Relative to the Extension and Expansion of Certain Rapid Transit Facilities by the Metropolitan Transit Authority House No. 3027, March 1961 P. 13/

is known as a demonstration project and will involve the expenditure of \$5.4 million dollars by June 30, 1963.¹¹

Of particular interest to downtown Boston are three experiments to be conducted for this Commission by the MTA. These experiments consist of:

1. "Increased frequency on certain bus routes in outlying portions of the core, particularly during off-peak hours to test the ability of such improved service to attract the passenger who has occasion to move about the city during the day."
2. "Increased frequency existing bus routes serving the stations where commuter trains terminate to coordinate with and add to the attractiveness of the improved rail service....in the railroad demonstration program."¹²
3. "Greatly reduced parking fees in certain lots which are not fully utilized to test the possibility of making greater use of existing parking facilities."¹²

¹¹ Commonwealth of Massachusetts House No. 3400 op/ City p. 104 Feb. 1962

¹² Commonwealth of Massachusetts, Mass Transportation Commission, Revised Application for a Demonstration Grant to the Office of Transportation, Office of the Administrator Housing and Home Finance Agency, Wash. 25, D.C., May 1962, p. 20

3.

EXPRESSWAYS

Currently the only expressway that serves the GNRP area is the Central Artery. This multi-lane divided expressway is a part of a system that links Newburyport Turnpike in Saugus in the North and Route 128 in Braintree in the south. Proceeding from north to south, this expressway system is known by the following designations: Northeast Expressway, Mystic River Bridge, Central Artery and Southeast Expressway. The recent completion of the Central Artery greatly facilitates motorized travel from outlying points in the north and south to the fringe of the CBD area. However, from the beginning of the Artery until respective GNRP destinations are reached, there is a relative increase of travel time. Thus, the intended purpose of the Central Artery is partially vitiated due to the following reasons:

1. The presence of too many exits and entrances tends to unduly slow down traffic and seriously reduces optimum capacity of this facility.
2. The lack of properly functioning ^adistribution system among local streets causes, during peak hours, overloading of the ramps.
3. The presence of a considerable amount of through traffic on the Artery tends to reduce the capacity available for distributing local traffic.

The problem created by through traffic using the Central Artery is inherent in its physical layout. For motorists travelling between the North and South Shore or coastal regions beyond, use of the Central Artery over other alternate routes means a savings in both time and distance. It is open to question whether completion of the Inner Belt in the future would eliminate much of the through traffic, since the Central Artery will be incorporated as the eastern link of the proposed loop. The Turnpike Extension, now under construction by the Massachusetts Turnpike Authority and designed to terminate at the Artery may further increase through traffic on the Artery and add to the congestion during peak traffic hours. Currently long distance auto movement in an east-west direction is the most difficult of all directions. Construction of the toll road is expected to provide immediate relief. The Turnpike is to join with the Central Artery in the vicinity of South Station and with local streets within the GNRP project area through exits at South Station. Within the GNRP, entrance to the Turnpike for east bound movement can be made at South Station and at Arlington Street.

Serving downtown project area indirectly through the Sumner and Callahan twin tunnels in the East Boston Expressway, which links the project area with East Boston, Logan Airport,

Winthrop and parts of Revere. This Expressway, however, terminates at local streets just outside of the project area in the North End. Storrow Drive presently serves as the main traffic channel in an east-west direction. However, it should more properly be designated as a parkway because of its design standards. Travelling speed on this parkway during rush hours on weekdays averages less than 35 m.p.h.

The construction of a divided, multi-lane circumferential expressway has been proposed as a future inner belt system. Parts of the following communities will be traversed: Foston, Brookline, Cambridge and Somerville. Due to the multiplicity of autonomous political subdivision involved and their independent vetoing power, the current status of the Inner belt is still uncertain, although its position within jurisdiction of Boston is largely fixed. In its completed state, the Central Artery and portions of the Southeast Expressway would form the eastern link. Roxbury and Dorchester would be bordered on the north by the expressway. It would then proceed northwesterly along the "Muddy Creek" basin passing through parts of the Boston University campus and crossing the Charles River to Cambridge and Somerville. Here the alignment and rights-of-way are much in doubt.

One of the major functions of the Innerbelt System is to reduce the amount of through traffic within the encircled area. Intra-regional traffic, especially that generated within the outer ring circumferential expressway called Route 128 could by-pass the core area if not destined downtown. The reduction in travel time and enhancement of driving ease would further ensure its proper functioning. The Innerbelt system will also serve as a circular trunk line that will enable traffic to switch onto different radial expressways. It should be noted that the locations of existing intermediate transfer stations of the M. T. A. line coincide closely with that of the Innerbelt System. Thus providing the possibility of an extensive "park and ride" system.

4. STREETS IN THE CENTRAL BUSINESS DISTRICT

The CBD is bounded on all sides by major streets; Congress Street on the northwest, State and Court Streets on the North, Tremont Street on the West, Stuart and Kneeland Streets on the south, and the Central Artery on the east and southeast. Within this area, as well as the rest of the GNRP and adjacent areas, the street system as a whole can be describe as random and circuitous. It is characterized by its overall non-orthogonal pattern, its narrow rights-of-way, one way movement, and the frequent convergence of several one-

way streets at oblique angles. "Dog-legged" intersection are also extant, often with the would-be continuation of the right-of-ways blocked by buildings of historical significance. Despite the presence of numerous landmarks, the circuitous street pattern plus the lack of comprehensiveness of the traffic system makes it hard for persons to orient themselves within the downtown area.

A hierarchy of streets has not been established within the CBD. There is no clear ordering of major through, Feeder, local, and service streets. Major streets have developed through necessity over the years. As a result, there appears on these major streets a mixture of through and local traffic. Within the CBD area these streets are: Tremont, Washington and Congress Streets in the north and south direction; Stuart-Kneeland, Boylston-Essex, Summer, Franklin and State Streets in the east-west direction. It is mainly from these streets that motorists seek out their respective destinations within the downtown area.

5. PARKING FACILITIES

There is no legalized free curb parking within the CBD during the working hours. A general law limits on-street parking within the city limits to a maximum of two hours. During weekdays, parking can be done in three ways; metered

on-street parking, off-street parking lots, and garages. The Parking Map (G-6) indicates the locations and capacities of the off-street facilities. The nature of ownership is also indicated. Opinions differ as to the adequacy of existing facilities, but most people agree that the multiplicity of authorities currently dealing with parking matters is not conducive to handling parking problems as a comprehensive whole. Moreover, present on-street parking is thought to be best accommodated in the future by off-street facilities. Thus, the flow capacity of streets will be increased along with a reduction of traffic hazards.

The following chart shows the breakdown of existing facilities.¹³

	<u>CBD</u>	<u>GNRP & Adj. Area</u>
Garage (Public)	2,500 Veh.	1,600 Veh.
Garage (Private)	3,600	1,700
Lot (Public)	200	200
Lot (Private)	900	800
On Street Parking	N.A.	8,700

¹³ Boston Redevelopment Authority, Preliminary Sketch Plan, pp VII-8, April 1962.

It has been proposed that a sizable parking garage (approximately 7,000 Veh.) be constructed near the terminal point of the Turnpike Extension in the vicinity of the present South Station and Fort Point Channel. The structure would be directly connected to the Turnpike and the Central Artery, thus partially easing the congestion of the local streets. Such access and egress control would serve to curb the tendency of generating local traffic while containing a sizable portion of CBD-destined expressway traffic.

Other pertinent information about the proposal is:

- It would be a self-service type of facility.
- It would be physically tied to an improved MTA Cambridge-Ashmont line, in order to complete the downtown-destined passenger trips by the garage users.
- Other modes of transportation would be used or devised to convey passengers from the garage to destination within the downtown area.
- An all-weather sports stadium may be constructed in close proximity to the garage so that the parking facility as well as other service facilities in the downtown area would be more fully utilized.
- Portions of the site would be converted into a proposed major truck terminal.
- Pedestrian movement between the garage and the heart of

the retail core would be improved by an overpass from the garage to Summer-Federal Streets.

- Other parking facilities may also be constructed along the service roads parallel to the Turnpike Extension between Copley Square and the South Station terminal. This would further lessen the need for off-street parking facilities within the CBD as well as reduce auto traffic to these off-street facilities.

6. PEDESTRIAN MOVEMENT

Although motoring has been favored over other means as the mode of transportation to downtown during recent years, the CBD of Boston remains pedestrian oriented. That it is so due chiefly to the two following reasons. The CBD is compact in size, and there is a lack of successful competition from other modes of intra-CBD transportation. The CBD contains almost all of the inter-related activities which attract persons to this area. Since it measures approximately $1/4$ by $1/2$ miles in size, not including the Park Square "panhandle" portion, intra-CBD communication on foot can be accomplished in less than 15 minutes. At present other modes of transportation cannot rival walking in terms of cost versus travel time.

There are other factors that also tend to promote foot traffic. Places with visual attraction such as the fashion shops and department stores, and well-kept foot paths or lanes such as Spring Lane or Winter Place, provide added incentives for people downtown to travel on foot.

Apart from workers, shoppers, and routine entertainment seekers, pedestrians in downtown Boston also come from the following sources.

1. As a mecca of things cultural and places historical, Boston attracts a large number of visitors all year round. Many of these places such as Freedom Trail and the associated events such as the Arts Festival are within the downtown area or its immediate vicinity.
2. Within the CBD proper the number of residents is small. However a large number of residential neighborhoods are located within the GNRP area and the contiguous neighborhoods at Fack Bay, North End and West End. Whether these residents are workers, students or retired folks, their activities tend largely to be downtown oriented. Those who do not gain employment within the CBD area often use it for retail, entertainment or other

service functions. Due to the physical proximity to downtown, the residents also tend to prefer walking as their predominant mode of transportation.

3. To the above-mentioned sources of pedestrian traffic one may add those generated by hotel guests, since a number of fine hotels are located within or near the GNRP project area.

7. GROUPS INVOLVED IN GNRP CIRCULATION

Many private organizations and public agencies are involved in transportation matters in or affecting the GNRP. A brief discussion of the primary responsibilities of these groups is presented below.

- Boston Department of Public Works

This department has authority to lay out, widen, relocate, alter, or discontinue highways, to order specific repairs to be made, to order construction of sanitary sewers and storm drains, to take land for eminent domain for municipal purposes (except for Public Housing and off-street parking) and to levy assessments for street sidewalk, and sewer betterments. It has charge of the contract collection, removal, and disposal of ashes, garbage, refuse and street cleaning. It also constructs and maintains sewers and surface drains, disposes sewage, and controls and maintains all pipes and appurtenances for supplying water to the city.

- Boston Police Department

This department has responsibility for regulating traffic and for enforcing traffic laws.

- Boston Traffic & Parking Department

This department was formerly the Boston Traffic Commission. It has exclusive authority to adopt, amend, alter, and repeal rules and regulations relative to vehicular street traffic and to the movement, stopping or standing of vehicles on city roadways. It is responsible for the placement and operation of parking meters, signs and signals, the painting of street lines, and the designation of the circulation pattern. It also recommends the location and type of new parking structures or lots and oversees the leasing of such city-owned property. The department does not have responsibility for some streets in the city which are the domain of the Metropolitan District Commission and the State Department of Public Works.

- Major Bus Companies

Of several inter-urban bus lines that enter the CBD area, Eastern Mass. and Boston & Worcester are the major carriers. Just outside of the CBD, but within bounds of GNRPA area, is Greyhound Bus Station which provides long distance inter-urban service only.

- Massachusetts Parking Authority

This authority was created to build the Under-Commons parking garage and to handle its affairs thereon.

- Massachusetts Port Authority

This is a state authority instructed to promote and protect the commerce of the City of Boston and of the metropolitan area. It now operates the Mystic River Bridge, Port of Boston, Logan International Airport, and Hanscom Field.

- Massachusetts State Department of Public Works

This is the state agency responsible for the Central Artery and Southeast Expressway in Boston.

- Mass Transportation Commission

This is a state-sponsored commission created to draw upon federal funds for studies relating to the co-ordination of highway planning, transportation, land use and urban renewal. The study area comprises 144 cities and towns in the Boston region.

- Massachusetts Turnpike Authority

The Authority is responsible for and authorized to construct, maintain, repair and operate at such location as may be approved by the State Department of Public Works a toll express highway from a point in the vicinity or near Boston to the New York-Massachusetts boundary line. It is also in charge of the Sumner and Callahan Tunnels.

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- Metropolitan District Commission

This is a state commission responsible for recreation areas and private auto parkways such as Storrow Drive, Jamaica Way, and the Fenway in Boston and Memorial Drive in Cambridge.

- Metropolitan Transit Authority

This is an authority serving 14 cities and towns in the Boston region with rapid transit, PCC trolley lines, bus and trackless trolley transit service/ !

- Railroad\$, Companies

Four railroad lines enter or come near the CBD area. The Boston and Albany and the New York, New Haven and Hartford (NYNH&H) lines out of South Station carry both passengers and freight. The Voston and Maine out of North Station also carries passenger and freight/ The Midlands b branch of the NYMH&H carries freight only out of South Station.

8. PAST STUDIES & REPORTS

In the past several decades, many studies have been made regarding automobile and transit circulation in the Boston region. Most of these focused upon the demand made upon the regional circulation facilities in bringing people to and from

